

# **EXHIBIT L**

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IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA

ELANTECH DEVICES CORP., a  
corporation existing under the laws of  
Taiwan, R.O.C.,

Plaintiff,

v.

SYNAPTICS, INC., a Delaware corporation;  
and AVERATEC, INC., a California  
corporation,

Defendants.

No. C 06-01839 CRB

**CLAIM CONSTRUCTION ORDER**

Elantech Devices Corp. (“Elantech”) filed suit against Synaptics, Inc. (“Synaptics”) for infringement of U.S. Patent No. 5,825,352 (“the ’352 patent”). Synaptics counterclaimed for infringement of U.S. Patents No. 5,880,411 (“the ’411 patent”), No. 5,943,052 (“the ’052 patent”), No. 5,543,592 (“the ’592 patent”), and No. 6,380,931 (“the ’931 patent”). The Court will construe eight claim terms selected by the parties.

**BACKGROUND**

**I. The ’411 Patent**

The ’411 patent, entitled “Object Position Detector With Edge Motion Feature and Gesture Recognition,” discloses a method to enable a touchpad to recognize finger contact, movement, and drag gestures, and to emulate various mouse functions. The patent was

1 issued March 9, 1999, and by assignment, Synaptics is the owner of the entire right, title, and  
2 interest of the '411 patent.

3 The '411 patent contains only one of the claim terms to be construed: “incrementally  
4 move.” The relevant patent claims are directed to a method for extrapolating cursor motion  
5 once the user reaches the edge of a touchpad.<sup>1</sup> The general goal of the relevant claims is to  
6 detect when the user wants to move the cursor to a position that is beyond the limited bounds  
7 of the touchpad and to move the cursor accordingly—this is called cursor “edge motion.”  
8 '411 patent at 5:9-10.

9 **II. The '931 Patent**

10 The '931 patent, entitled “Object Position Detector With Edge Motion Feature and  
11 Gesture Recognition,” discloses a method to enable a touchpad to recognize tap gestures and  
12 emulate various mouse functions. The patent was issued April 30, 2002, approximately three  
13 years after the '411 patent, and by assignment, Synaptics is the owner of the entire right, title,  
14 and interest of the '931 patent.

15 The '931 patent contains three of the claim terms to be construed: (1) “initiating a  
16 signal to the host indicating the occurrence of said tap gesture;” (2) “maintaining said signal  
17 for a predetermined period of time;” and (3) “detecting in which of at least one corner of the  
18 touch-sensor pad said tap gesture occurred.” The first two claim terms are related and are  
19 generally directed to “a method for recognizing a tap gesture made on a touch-sensor pad.”<sup>2</sup>  
20 The patent claim relevant to the third claim term is directed to detecting the occurrence of a  
21 tap gesture in a particular corner. The patentee asserts that the invention allows for greater  
22 structural design flexibility and efficiency. The patentee described methods of recognizing  
23 tap gestures that were known in the prior art, and asserted that the prior art systems were  
24 slower, less intuitive for users, and more likely to cause user strain.

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27 <sup>1</sup>The term to be construed is present in claims 40, 46, 53, and 59.

28 <sup>2</sup>The first two terms to be construed are present in claims 1 and 7. The third term is present in  
claim 5.

1 **III. The '352 Patent**

2 The '352 patent, entitled "Multiple Fingers Contact Sensing Method for Emulating  
3 Mouse Buttons and Mouse Operations on a Touch Sensor Pad," discloses a method for  
4 recognizing the presence of multiple fingers on a touchpad and emulating various mouse  
5 function; the patent also discloses a touchpad with such capabilities. The patent was issued  
6 October 20, 1998, and by assignment, Elantech is the owner of the entire right, title, and  
7 interest of the '352 patent.

8 The '352 patent contains four of the claim terms to be construed: (1) "scanning the  
9 touch sensor" or "means for scanning the touch sensor to . . . ;" (2) "*scanning the touch*  
10 *sensor to . . . identify a first maxima in a signal corresponding to a first finger;*" (3)  
11 "*scanning the touch sensor to . . . identify a minima following the first maxima;*" and (4)  
12 "*scanning the touch sensor to . . . identify a second maxima in a signal corresponding to a*  
13 *second finger following said minima.*" The claims are directed to "a method for detecting the  
14 operative coupling of multiple fingers to a touch sensor."<sup>3</sup> Generally, the goal of the method  
15 is to detect the presence of multiple fingers on a touch sensor and emulate mouse functions.  
16 The patentee described methods of emulating mouse functions using a touchpad that were  
17 known in the prior art, and asserted that these systems were more stressful and less intuitive  
18 than using a mouse.

19 **DISCUSSION**

20 **I. Legal Standard for Claim Construction**

21 Claim construction is a matter of law for the court to decide. Markman v. Westview  
22 Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 372 (1996). When  
23 construing claims, a court first looks to intrinsic evidence of record, and thereafter, if  
24 appropriate, to extrinsic evidence. Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582  
25 (Fed. Cir. 1996). Intrinsic evidence comprises the patent claims, the specification, and, if  
26 entered into evidence, the prosecution history. Id. Intrinsic evidence also comprises the  
27 prior art cited in a patent or during the prosecution. Kumar v. Ovonic Battery Co., 351 F.3d

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<sup>3</sup>The terms to be construed are present in claims 1 and 18.

1 1364, 1368 (Fed. Cir. 2003). In most cases, the intrinsic evidence alone will determine the  
2 proper meaning of the claim terms. Vitronics, 90 F.3d at 1583.

3 When construing claims, the analysis begins with, and must focus on, the language of  
4 the claims themselves. Interactive Gift Exp., Inc. v. Comuserve Inc., 256 F.3d 1323, 1331  
5 (Fed. Cir. 2001). If the claim language is clear on its face, then the rest of the intrinsic  
6 evidence is considered only for whether any deviation from the plain meaning is specified.  
7 Id. Deviation may be warranted if, for example, the patentee has “chosen to be his own  
8 lexicographer,” or if the patentee has disclaimed a certain portion of the claim scope that  
9 would otherwise be afforded by the plain meaning. Id. (citations omitted). Where the claim  
10 language is not clear, other intrinsic evidence is used to resolve the lack of clarity. Id.

11 Generally, a court gives the words of a claim their ordinary and customary meaning.  
12 Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). The “ordinary and  
13 customary meaning of a claim term is the meaning that the term would have to a person of  
14 ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing  
15 date of the patent application.” Id. at 1313. The context in which a word appears in a claim  
16 informs the construction of that word. Id. at 1314. Where there are several common  
17 meanings, the patent disclosure “serves to point away from the improper meanings and  
18 toward the proper meanings.” Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d  
19 1294, 1300 (Fed. Cir. 2003) (citation omitted). If more than one definition is consistent with  
20 the usage of a term in the claims, the term may be construed to encompass all consistent  
21 meanings. Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1203 (Fed. Cir.  
22 2002).

23 Other claims of the patent in question “can also be valuable sources of enlightenment  
24 as to the meaning of a claim term.” Phillips, 415 F.3d at 1314. Because claim terms are  
25 normally used consistently throughout the patent, “the usage of a term in one claim can often  
26 illuminate the meaning of the same term in other claims.” Id. The presence of a dependent  
27 claim that adds a particular limitation gives rise to a presumption that the limitation in  
28 question is not present in the independent claim. Id. at 1315.

1 Claims must be read in light of the specification. Markman, 52 F.3d at 979. The  
2 specification “is the single best guide to the meaning of a disputed term.” Vitronics, 90 F.3d  
3 at 1582. Where a claim term has multiple yet potentially consistent, definitions, the rest of  
4 the intrinsic record, beginning with the specification, provides further guidance. Brookhill-  
5 Wilk, 334 F.3d at 1300. If the patentee explicitly defined a claim in the specification, that  
6 definition trumps the ordinary meaning of the term. CCS Fitness v. Brunswick Corp., 288  
7 F.3d 1359, 1366 (Fed. Cir. 2002). The specification may define a term by implication.  
8 Phillips, 415 F.3d at 1321. The specification may also reveal a disclaimer of the claim scope  
9 by indicating that the invention and all of its embodiments only occupy part of the broad  
10 meaning of a claim term. SciMed Life Sys. v. Advanced Cardiovascular Sys., 242 F.3d  
11 1337, 1343-44 (Fed. Cir. 2001).

12 It is error, however, to import a limitation from the specification into the claim.  
13 Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 905 (Fed. Cir. 2004). Standing alone,  
14 an embodiment disclosed in the specification does not limit the claims. Id. at 906. Even  
15 when the specification describes only a single embodiment, the claims of the patent are not to  
16 be construed as restricted to that embodiment unless the patentee demonstrates a clear  
17 intention to limit the claim scope using “words or expressions of manifest exclusion or  
18 restriction.” Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1327 (Fed. Cir. 2002).  
19 Absent clear statements of scope, courts are constrained to follow the language of the claims  
20 and not that of the written description provided by the specification. Id. at 1328; see also  
21 Specialty Composites v. Cabot Corp., 845 F.2d 981, 987 (Fed. Cir. 1988) (stating a limitation  
22 should not be read into the claims unless a specification so requires).

23 Conversely, a construction that excludes a preferred embodiment is “rarely, if ever,  
24 correct.” Pfizer Inc. v. Teva Pharm., USA, Inc., 429 F.3d 1364, 1374 (Fed. Cir. 2005)  
25 (quoting Sandisk Corp. v. Memorex Products, Inc., 415 F.3d 1278, 1285 (Fed. Cir. 2005)).  
26 Courts require highly persuasive evidence that the claims do not encompass a preferred  
27 embodiment. Vitronics, 90 F.3d at 1583.

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1 **II. Construction of the Disputed Terms**

2 The following analysis considers as intrinsic evidence the claims, the specification,  
3 and the prosecution history.

4 **A. The '411 Patent**

5 The parties have requested the Court to construe the term “incrementally move.”

6 **1. “Incrementally move”**

7 Claims 40, 46, 53, and 59 of the '411 patent contain the term “incrementally move.”

8 For example, claim 40 recites, in relevant part:

9 . . . generating second cursor motion signals different from said first cursor motion  
10 signals if said object has moved into said outer region of said sensing plane, said  
11 second cursor motion signals for causing said cursor to incrementally move on the  
12 display screen a selected distance in a direction representing the difference between a  
fixed reference point on said sensing plane and said present position of said object on  
said sensing plane. . . .

13 '411 patent at 62:53-60 (emphasis added).

14 Elantech proposes a construction of “movement defined by the second component of  
15 Equations 12 and 13 in the '411 patent, namely,  $S(X_{cur}-X_{center})$  and  $S(Y_{cur}-Y_{center})$ .” Limitations  
16 in narrow claims dependent from claim 40 may not be imported into the broad language of  
17 claim 40. The limitation in dependent claim 44 sets the “fixed reference point” of claim 40  
18 as the center of the sensing plane. Dependent claim 45 includes a speed variable in the  
19 calculation of the incremental motion of claim 40. A construction of “movement defined by  
20 the second component of Equations 12 and 13 in the '411 patent, namely,  $S(X_{cur}-X_{center})$  and  
21  $S(Y_{cur}-Y_{center})$ ” would impermissibly import limitations from dependent claims into a broad  
22 claim.

23 Moreover, Elantech’s very narrow construction limiting the claims to one embodiment  
24 ignores the explicit statement in the specification of the '411 patent: “[t]hose of ordinary skill  
25 in the art will recognize that a linear proportionality is described by the above equation. As  
26 used herein, ‘proportionality’ means that the signal generated is a monotonic function. Those  
27 of ordinary skill in the art will recognize that other monotonic functions, including but not  
28 limited to inverse proportionality, and non-linear proportionality such as logarithmic or

1 exponential functions, could be employed in the present invention without departing from the  
2 principles disclosed herein.” ’411 patent at 31:29-38. This statement immediately follows an  
3 explanation of how Equations 12 and 13 might be applied within an algorithm in the  
4 preferred embodiment. ’411 patent at 30:65-67–31:1-29.

5 The term “incrementally move” means “move in calculated increments.”

6 **B. The ’931 Patent**

7 The parties have requested the Court to construe the following three terms:

- 8 (1) “initiating a signal to the host indicating the occurrence of said tap gesture;”  
9 (2) “maintaining said signal for a predetermined period of time;” and  
10 (3) “detecting in which of at least one corner of the touch-sensor pad said tap gesture  
11 occurred.”

12 The first and second terms appear together in the claims, and both are used to describe  
13 steps concerned with transmission of a signal; these terms will be analyzed together.

14 **1. “Initiating a signal to the host indicating the occurrence of said tap  
15 gesture” and “Maintaining said signal for a predetermined period  
16 of time”**

17 Claims 1 and 7 of the ’931 patent both contain the term “initiating a signal to the host  
18 indicating the occurrence of said tap gesture” and the term “maintaining said signal for a  
19 predetermined period of time.” Claim 1 recites, in relevant part:

20 . . . . initiating a signal to the host indicating the occurrence of said tap gesture if the  
21 amount of time said conductive object is present on said touch pad is less than said  
22 reference amount of time and if the amount of motion made by said conductive object  
while it is present on said touch pad is less than said reference amount of motion; and  
maintaining said signal for a predetermined period of time.

23 ’931 patent at 53:4-12 (emphasis added).

24 For the term “initiating a signal to the host indicating the occurrence of said tap  
25 gesture,” Synaptics proposes a construction of “initiating the transmission of a set of data to a  
26 computer, or other device that can take as input the output of a touch-sensor pad, that  
27 indicates that a tap gesture has occurred on the touch-sensor pad.” Elantech proposes a  
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1 construction of “outputting to the host a high state of a signal that has a low and a high state,  
2 where the high signal state represents that a tap gesture occurred on the touch-sensor pad.”

3 For the term “maintaining said signal for a predetermined period of time,” Synaptics  
4 proposes a construction of “to continue, retain, or repeat the signal for a period of time that  
5 was determined before.” Elantech proposes a construction of “continuously outputting the  
6 high state of the signal only for a predetermined time period (i.e., changing the signal state  
7 from high to low at the end of the predetermined time period).” In other words, Elantech  
8 asserts that a “signal” has only two states and that “maintaining” the signal can only be  
9 accomplished by continuous output of the signal, while Synaptics asserts a flexible  
10 construction of the word “signal” as “the transmission of a set of data” and that  
11 “maintaining” a signal may be accomplished in several ways.

12 The claims and the specification do not support a construction where a “signal” can  
13 only represent a low state and a high state. The word “signal” is used broadly throughout the  
14 ’931 patent. As used in claim five, a “signal” is able to indicate both that a tap gesture  
15 occurred and *where* the tap gesture occurred. This type of complex data communication is  
16 beyond the capacity of a signal that only has a low state and a high state, and there is nothing  
17 in the claims to indicate that the word “signal” in claim five should be construed differently  
18 than the word “signal” in claims one or seven. The word “signal” is also used in other  
19 contexts throughout the ’931 patent: a packetized “10-bit wide digital signal,” ’931 patent at  
20 13:64-65, and “a monotonic function.” ’931 patent at 31:59-60. In their opposition brief,  
21 Elantech argues that every reference to the word “signal” that relates to gesture recognition  
22 refers only to the “OUT” signal described in Fig. 15a-e. However, the “OUT” signal  
23 described in Fig. 15a-e of the specification is the output of tap unit 280, which is only one  
24 component in the circuitry. *Id.* at 34:23-29. The “OUT” signal is not the ultimate signal  
25 which is sent to the host, as described in the relevant claims; it is only used to convey  
26 information about (1) the fact that a tap gesture occurred, and (2) which button click should  
27 be emulated—left, middle, or right. *Id.* at 35:26-27.

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1           There is little in the intrinsic evidence that describes exactly how a “signal” is  
2 “maintained.” Nothing in the claims addresses this point, but one clue arises in the  
3 description of the flowchart that illustrates the operation of the tap unit: “[s]tep 334 also sets  
4 the Suppress flag to True to cause the virtual button signal to stay low for a short period.”  
5 ’931 patent at 43:1-2; Fig. 17B. The fact that setting a flag to a value of True could cause a  
6 signal to “stay low”—to maintain a particular value—“for a short period of time” indicates that  
7 there is more than one way of “maintaining” a signal. There is no evidence to support  
8 Elantech’s construction that a signal is “maintained” only by continuously outputting the  
9 signal.

10           The term “initiating a signal to the host indicating the occurrence of said tap gesture”  
11 means “initiating the transmission of a set of data to a computer, or other device that can take  
12 as input the output of a touch-sensor pad, that indicates that a tap gesture has occurred on the  
13 touch-sensor pad.” The term “maintaining said signal for a predetermined period of time”  
14 means “to continue, retain, or repeat the signal for a period of time that was determined  
15 before.”

16                           **2. “Detecting in which of at least one corner of the touch-sensor pad**  
17                           **said tap gesture occurred”**

18           Claim 5 of the ’931 patent recites, in relevant part:

19           . . . detecting in which of at least one corner of the touch-sensor pad said tap gesture  
20           occurred . . .

21           Id. at 53:29-30 (emphasis added).

22           Synaptics proposes a construction of “detecting that a tap gesture has occurred in at  
23 least one corner, the identity of which is distinguished in some way from other corners of the  
24 touch-sensor pad.” Elantech proposes a construction of “after detecting the occurrence of the  
25 tap gesture, separately detecting in which of at least one corner of the touch-sensor pad the  
26 tap gesture occurred.” In other words, Synaptics asserts that the single event of the detection  
27 of the occurrence of the tap gesture also provides information on where the tap gesture  
28 occurred, while Elantech asserts that the detection of where the tap gesture occurred is a  
separate event from the detection of the occurrence of the tap gesture.

1 Claim five requires that the first two detection steps be complete by the time the last  
2 step of the method is executed, since it is not possible to send a signal “indicating the  
3 occurrence of said tap gesture and in which of at least one corner of said touch-sensor pad  
4 said tap gesture occurred” unless one has already detected the occurrence of said tap gesture  
5 and detected in which of at least one corner of said touch-sensor pad said tap gesture  
6 occurred. However, there is nothing in the claim language to indicate that the two detection  
7 steps could not occur simultaneously.<sup>4</sup> Elantech argues that “[i]t would be impossible to  
8 detect in which of at least one corner of the touch-sensor pad said tap gesture occurred if the  
9 tap gesture has not previously been detected,” and cites cases where an order has been  
10 imposed upon steps in a method. However, in all the cases cited there is a modifying  
11 adjective present in one step of the method that refers to an action taken in a previous step—an  
12 explicit link that requires the imposition of an order as between the two steps.<sup>5</sup> The cited  
13 cases are therefore distinguishable because in the second detection step here there is no  
14 adjective modifying the phrase “tap gesture” that refers to an action taken in the first  
15 detection step.

16 The term “detecting in which of at least one corner of the touch-sensor pad said tap  
17 gesture occurred” means “detecting that a tap gesture has occurred in at least one corner, the  
18 identity of which is distinguished in some way from other corners of the touch-sensor pad.”

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21 <sup>4</sup>The specification and the figures illustrate in meticulous detail the steps involved in detecting  
22 the occurrence of a tap gesture and (assuming that it was a corner tap) detecting in which corner the tap  
23 gesture occurred. ’931 patent at 42:34-44:33; Fig. 17B-C. Step 326 is where the tests are performed  
24 to determine whether a tap gesture has occurred, and step 348 is where the tests are performed to  
determine whether a corner tap has occurred. As described in the specification and figures, there are  
many interleaving steps, however, there is no way to arrive at step 348 without first proceeding through  
step 326. Nevertheless, an order cannot be imposed as between the two detection steps since there is  
no law to support such a ruling where the plain words of the claim impose no such order.

25 <sup>5</sup>Elantech cites Combined Sys., Inc. v. Def. Tech. Corp. of Am. and Fed. Labs., 350 F.3d 1207,  
26 1210 (Fed. Cir. 2003) (claim 1 of the ’562 patent recites a step of “*forming folds* in said tubular sock-  
27 like projectile body” and then a step of “inserting said *formed folds* of said tubular sock-like projectile  
28 body”) (emphasis added); see also Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc., 152 F.3d 1368,  
1376 n.13 (Fed. Cir. 1998) (where claim 1 of the ’483 patent recites a step of “providing a treating flow  
of *acetic acid* . . . into said groundwater region” and then a step of “introducing . . . an aqueous solution  
of ferrous ion into said groundwater region, for mixing with said *acidified groundwater*”) (emphasis  
added).

1           **C.       The '352 Patent**

2           The parties have requested the Court to construe the following four terms:

3           (1) “scanning the touch sensor” or “means for scanning the touch sensor to ...;”

4           (2) “*scanning the touch sensor to ... identify a first maxima in a signal corresponding*  
5 *to a first finger;*”

6           (3) “*scanning the touch sensor to ... identify a minima following the first maxima;*”  
7 and

8           (4) “*scanning the touch sensor to ... identify a second maxima in a signal*  
9 *corresponding to a second finger following said minima.*”

10          The latter three terms are used in the context of scanning the touch sensor and together  
11 describe the process of recognizing the presence of one or more fingers on the touch sensor;  
12 these three terms will be analyzed together.

13                   **1.       “Scanning the touch sensor”**

14          Claims 1 and 18 of the '352 patent both contain the term “scanning the touch sensor.”  
15 Claim 1 recites, in relevant part:

16                   . . . . scanning the touch sensor to (a) identify a first maxima in a signal  
17 *corresponding to a first finger, (b) identify a minima following the first maxima, (c)*  
18 *identify a second maxima in a signal corresponding to a second finger following said*  
19 *minima. . . .*

                  '352 patent at 16:16-20 (emphasis added).

20          Elantech proposes a construction of “examining information associated with the touch  
21 sensor.” Synaptics contends that the phrase should be construed to mean “measuring the  
22 traces in the touch sensor and assigning them to a sequence corresponding to their physical  
23 order on the touch sensor.” In other words, Elantech asserts a broad construction of  
24 “scanning the touch sensor” that is not tied to any particular touch sensor technology and that  
25 the data obtained from scanning the touch sensor need not be structured or ordered in any  
26 way. By contrast, Synaptics asserts that the “touch sensor” must be limited to capacitive  
27 devices using traces and that each capacitance value obtained from scanning the touch sensor  
28 must be associated with information representing the particular position on the touch sensor  
where the value was detected; Synaptics does not argue that the traces must be sensed in a

1 sequential fashion and agrees that, as disclosed by the '352 patent, all traces may be sensed  
2 simultaneously.

3         There is nothing in the language of claims 1 or 18 that require a construction of a  
4 “touch sensor” that includes traces. In fact, claim 6, which is dependent from (and thus  
5 narrower than) claim 1, includes a limitation on the touch sensor “wherein said touch sensor  
6 includes a plurality of lines.” Furthermore, the specification explicitly states that “[t]he  
7 present invention may be implemented based on any conventional touch sensing technology,  
8 although an exemplary embodiment involves the use of a capacitive touch sensing device.”  
9 '352 patent at 2:20-24. Synaptics argues that because the parties have agreed on a  
10 construction of the term “operative coupling” to mean “electrical finger-induced effect,” the  
11 claims must then be limited to methods and systems that measure such an electrical  
12 phenomenon. Although this may be true, there is no evidence that methods and systems that  
13 detect electrical finger-induced effect necessarily require traces.

14         Elantech’s construction of “examining information associated with the touch sensor,”  
15 by contrast, is far too broad, as such words could be interpreted to include determining the  
16 chemical composition of the surface of the touch sensor, the manufacture date of the touch  
17 sensor, or the power consumption metrics of the touch sensor. The term “scanning the touch  
18 sensor” only appears in claims 1 and 18, and the term only appears in conjunction with the  
19 purpose of seeking to detect operative coupling. '352 patent at 16:16-20, 17:29-34. As  
20 stated in Elantech’s own reply brief, the purpose of “scanning the touch sensor” is “to  
21 identify finger presence.”

22         The term “scanning the touch sensor” means “measuring the values generated by a  
23 touch sensor to detect operative coupling and determining the corresponding positions at  
24 which measurements are made.”

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2. ***“Scanning the touch sensor to (a) identify a first maxima in a signal corresponding to a first finger, (b) identify a minima following the first maxima, (c) identify a second maxima in a signal corresponding to a second finger following said minima”***

Claims 1 and 18 of the '352 patent both contain the three terms “identify a first maxima in a signal corresponding to a first finger,” “identify a minima following the first maxima,” and “identify a second maxima in a signal corresponding to a second finger following said minima.” Claim 1 recites, in relevant part:

*. . . . scanning the touch sensor to (a) identify a first maxima in a signal corresponding to a first finger, (b) identify a minima following the first maxima, (c) identify a second maxima in a signal corresponding to a second finger following said minima. . . .*

Id. at 16:16-20 (emphasis added).

For the term “identify a first maxima in a signal corresponding to a first finger,” Elantech proposes a construction of “identify a first peak value in a finger profile obtained from scanning the touch sensor.” Synaptics proposes a construction of “measuring the trace values of the touch sensor corresponding to a first finger and determining the point at which the measured values cease to increase and begin to decrease.”

For the term “identify a minima following the first maxima,” Elantech proposes a construction of “identify the lowest value in the finger profile that occurs after the first peak value, and before another peak value is identified.” Synaptics proposes a construction of “measuring the trace values of the touch sensor following, in scan order, said minima and determining the point at which the measured values cease to decrease and begin to increase.”

For the term “identify a second maxima in a signal corresponding to a second finger following said minima,” Elantech proposes a construction of “after identifying the lowest value in the finger profile, identify a second peak value in the finger profile.” Synaptics proposes a construction of “measuring the trace values corresponding to a second finger following, in scan order, said minima and determining the point at which the measured values cease to decrease and begin to increase.”

1 In other words, Elantech asserts that a “maxima” or “minima” represents only the  
2 maximum or minimum capacitance value measured across a finger profile; a “maxima” or  
3 “minima” does not refer in any way to the particular position[s] on the touch sensor where  
4 the maximum or minimum capacitance values appear. Synaptics asserts that a “maxima” or  
5 “minima” represents not only the capacitance measured at that one trace, but also the  
6 particular position on the touch sensor where that maximum or minimum level of capacitance  
7 was detected across the finger profile. Synaptics also asserts that within a finger profile, a  
8 “maxima” or “minima” can only appear at one precise point on the touch sensor, and so when  
9 a maximum or minimum capacitance value, as measured across a finger profile, appears at  
10 multiple traces (a plateau), the “maxima” or “minima” appears at the last trace that is  
11 included within that plateau region. Finally, Synaptics asserts that, in accordance with its  
12 construction of “scanning the touch sensor,” a limitation must be imposed upon the location  
13 in which a minima following a first maxima or a second maxima following a minima may  
14 appear.

15 Synaptics bases its argument on the detailed mechanics of the embodiment described  
16 in the specification and in Fig. 5-6. There is support in the claims for a construction of the  
17 terms “maxima” and “minima” as data objects that have position information, as well as a  
18 capacitance value;<sup>6</sup> however, there is no support in the intrinsic evidence for a construction of  
19 either the term “maxima” or the term “minima” wherein the position information can only  
20 relate to a precise point—a single X axis value and a single Y axis value. Such a construction  
21 could twist the ordinary meaning of a “maxima” or a “minima” so as to exclude a plateau  
22 maxima, where the maximum capacitance value appears over a range of X axis values and/or  
23 Y axis values.

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26 <sup>6</sup>Claim 8 adds a step to the method of claim 1 of “comparing a distance between said first  
27 maxima and said second maxima to a predefined threshold.” ’352 patent at 16:41-43. Claim 10 adds  
the step of “detecting a distance between said first and second maxima.” ’352 patent at 16:57-59.

28 Claim 15 adds the step of “determining if said first and second maxima are within 5  
centimeters.” ’352 patent at 17:17-18-43. Claim 13 also adds a step of “detecting a movement of said  
first maxima.” ’352 patent at 17:2.

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The term “identify a first maxima in a signal corresponding to a first finger” means “identify a first peak value in a finger profile obtained from scanning the touch sensor.” The term “identify a minima following the first maxima” means “identify the lowest value in the finger profile that occurs after the first peak value, and before another peak value is identified.” The term “identify a second maxima in a signal corresponding to a second finger following said minima” means “after identifying the lowest value in the finger profile, identify a second peak value in the finger profile.”

**IT IS SO ORDERED.**

Dated: April 6, 2007



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CHARLES R. BREYER  
UNITED STATES DISTRICT JUDGE